

UTAH DEPARTMENT OF HEALTH DIVISION OF HEALTH SYSTEMS IMPROVEMENT BUREAU OF EMERGENCY MEDICAL SERVICES

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INTRODUCTION

The Utah Bureau of Emergency Medical Services developed this manual for Utah emergency medical service providers, especially Emergency Medical Technician-Basic students in initial training. It is designed solely as a guide for teaching and testing of emergency medical service providers; and is intended to provide support to instructors and educators of EMT-Basic students. This manual identifies some of the expected performance of EMT-Bs when faced with a variety of emergency situations. These are not intended to be absolute teaching, testing, or treatment doctrines but rather guidelines which will have sufficient flexibility to meet the complex cases presented to EMTs in the field. The final authority for field performance rests with the Medical Director of the agency.

The 1994 Department of Transportation EMT-Basic National Standard Curriculum was used as a reference in the creation of this manual. This manual is formatted to facilitate its use in many different ways. The first column (column 1) lists the performance expected and the second column (column 2) lists suggested procedures or activities and includes some additional information that may be useful for teaching. The Teaching and Testing Guidelines (TTGs) can be used to check off performance and knowledge of procedures as training or testing is performed.

These guidelines are NOT intended to be a sequential approach to patient care where everything must be done in the exact order written. Body Substance Isolation, Scene Size-up, Initial Assessment, Focused or Rapid Assessment, Vital Signs, SAMPLE History, Detailed Physical Exam, Ongoing Assessment, Communication, and Documentation are to be executed in all situations. All other TTGs are to be performed as needed for specific situations. For example, if during the Initial Assessment, life-threatening bleeding is found, the appropriate bandaging/bleeding control should be performed prior to completing the Initial Assessment.

These guidelines are not inclusive or absolute with respect to testing performed by the Utah State Bureau of Emergency Medical Services. Please direct any discrepancies in the Teaching and Testing Guidelines to the Bureau of Emergency Medical Services.

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EMT BASIC TEACHING AND TESTING GUIDELINES **TTG-01 SCENE SIZE UP**

PERFORMANCE	PROCEDURES
Perform Body Substance Isolation (BSI) (Precautions to protect the EMT from exposure to disease, bodily fluids, hazmat, etc.)	Gloves required Eye protection recommended Mask as necessary Gown as necessary
Scene Safety (Determine if the scene is safe before approaching a patient)	Assess total scene for complete safety If scene is unsafe -DO NOT ENTER! Ensure personal safety Ensure crew safety Ensure bystander safety Ensure patient safety
Additional Resources (Assess need for additional or specialized assistance)	Assess if Law Enforcement is needed Assess if Fire Department is needed Assess if Hazmat Team is needed Assess if Power Company is needed Assess if Other resources is needed
Number of Patients (Determine number of patients)	 If responding crew can handle, proceed with assessment If more patients than responding crew can handle, initiate Mass Casualty Incident Plan (MCI). Consider Triage
Re-evaluate Scene Safety Continually	If the scene becomes unsafe at any time, leave

TTG-02 INITIAL ASSESSMENT

Check patient for life threats and treat immediately

PERFORMANCE	PROCEDURES
Mechanism of Injury or Nature of Illness	Medical - Assess Nature of Illness (NOI)
(Determine whether MOI or NOI)	Trauma - Assess mechanism of injury (MOI)
Consider Spinal Immobilization	Consider spinal immobilization
Form General Impression	Determine age, gender, and race
_	Evaluate the patients overall appearance and the environment
Identify Self, Obtain Consent to Treat	Identify yourself and ask if you can help
Determine Chief Complaint	Inquire: "What is the problem?"
Level of Consciousness (LOC)	Determine initial Level of Consciousness using AVPU • <u>A</u> lert, • <u>V</u> erbal • <u>P</u> ainful • <u>U</u> nresponsive
Assess <u>A</u> irway	Open airway using appropriate technique
Assess <u>B</u> reathing	 Look, listen, and feel for breathing Check for adequacy of breathing Assess chest rise and fall
Assess <u>Circulation</u>	 Check for pulse Radial pulse if patient is alert Carotid pulse if patient is unconscious Brachial pulse if patient is an infant Assess for major bleeding If life-threatening bleeding is found control immediately
Provide oxygen (O ₂)	 Non-rebreather mask at 15 liters/minute if: Responsive or unresponsive patient with adequate breathing Assisted ventilations with bag valve mask and adjuncts if: Patient is responsive with inadequate depth or rate (Adult < 8 or > 24, Pediatric <20) Unresponsive patient with inadequate breathing Patient in respiratory arrest Check for adequacy of ventilation by assessing chest rise and fall
Identify Priority Patients and Transport Decision	 Expedite transport and consider ALS back up if patient meets any of these criteria: If patient condition is beyond abilities of responding crew Poor general impression Unresponsive or altered LOC Respiratory difficulty Shock (hypo-perfusion) Complicated childbirth Chest pain with BP less than 100 systolic Uncontrolled bleeding Severe pain anywhere Pediatric or geriatric concerns

TTG-03 PHYSICAL EXAM FOR TRAUMA PATIENT

Perform Rapid Assessment OR Focused Physical Exambased on evaluation of MOI

PERFORMANCE	PROCEDURES	
RAPID TRAUMA ASSESSMENT		
For significant trauma (2 or	r more systems)	
For all unresponsive traum	a patients	
	ies, Contusions, Abrasions, Punctures, Burns, Tenderness, Lacerations,	
Swelling (DCAPBTLS)		
Assess Head	Inspect and palpate head, eyes, ears, and facial bones, ensuring patent	
	airway	
Assess Neck	Inspect and palpate cervical spine	
	Apply C-collar	
Assess Chest	Inspect and palpate chest	
1100000 011000	Auscultate breath sounds	
Assess Abdomen	Inspect and palpate all four abdominal quadrants	
A D1:	Y 1	
Assess Pelvis	Inspect and gently compress	
Assess Extremities	Inspect and palpate all extremities	
	Check all extremities for pulse, motor and sensory functions (PMS)	
	Some agencies also use the acronym circulation, motor and sensory	
	functions (CMS)	
Assess Posterior	Inspect and palpate back and spine	
Re-evaluate:	Re-evaluate need for Advanced Life Support (ALS) based on findings	
• ALS	Re-evaluate transport decision based on findings	
Transport Priority		
FOCUSED PHYSICAL EXAM		
For non-significant trauma		
Inspect and palpate using DCAPBTLS acronym		
Assess Area of Patient Complaint	Inspect and palpate each area in which patient complains of pain,	
•	auscultate when appropriate	

TTG-04 PHYSICAL EXAM FOR MEDICAL PATIENT

Perform Rapid Physical Exam OR Focused Physical Exam based on evaluation of patient mental status

PERFORMANCE	PROCEDURES	
RAPID PHYSICAL EXAM		
For unresponsive medical patients		
Inspect and palpate the following areas quickly using DCAPBTLS acronym		
Assess Head	Inspect and palpate head, ears, eyes, and facial bones, ensuring patent	
Assess Head	airway	
Assess Neck	Inspect and palpate cervical spine	
	Apply C-collar if needed	
Assess Chest	Inspect and palpate chest	
	Auscultate breath sounds	
Assess Abdomen	Inspect and palpate abdominal quadrants	
A D 1 :		
Assess Pelvis	Inspect and gently compress	
Assess Extremities	Inspect and palpate all extremities	
	Check all extremities for PMS	
Assess Posterior	Inspect and palpate back and spine	
Re-evaluate:	Re-evaluate need for ALS based on findings	
• ALS	Re-evaluate transport decision based on findings	
Transport Priority		
FOCUSED PHYSICAL EXAM		
 For conscious medical patient 	s	
Inspect and palpate using DCAPBTLS acronym		
Assess Area of Patient Complaint	Inspect and palpate each area in which patient complains of pain,	
_	auscultate when appropriate	

TTG-05 SAMPLE History

Obtain history early in assessment

PERFORMANCE	PROCEDURES
Obtain SAMPLE History	Obtain from patient first if available; if not available obtain from
	family, friends, bystanders, or environment
	Consider medical identification tags or cards
<u>S</u> igns/Symptoms	Inquire about Signs :
	Conditions identifiable through hearing, seeing, feeling,
	smelling
	Inquire about Symptoms :
	• Conditions described by the patient that are not seen, heard or felt, such as feeling faint, fingers are tingling, nausea, etc
Allergies:	Inquire about Allergies:
Anergies.	Medications
	• Foods
	• Environment
<u>M</u> edications	Inquire about Medications including any recent change in dosage or
	brand:
	 Prescriptions
	 Over the counter medications (non-prescription)
	Recreational
	Herbal
	• Diabetic
Pertinent Medical History	Inquire about Pertinent Medical History:
	 Possible pregnancy
	Heart problems
	• Seizures
	 Breathing problems
	 Diabetes
	Other
<u>L</u> ast Oral Intake	Inquire about Last Oral Intake:
	• Food
	• Drink
	• Time
	• Quantity
E vents Leading up to the Emergency	Inquire about Events leading to injury or illness
	Example: "Were you light headed before your fall?"

TTG-06 HISTORY OF THE PRESENT ILLNESS

PERFORMANCE	PROCEDURES
Obtain History of the Present Illness Using OPQRST	 Obtain from patient first if available; if not available obtain from family, friends, bystanders, or environment Consider medical identification tags or cards
Assess Complaints and Signs or Symptoms:	Assess complaints and signs or symptoms using OPQRST
<u>O</u> nset	Inquire: When did the pain or discomfort start What were you doing when the pain started
<u>P</u> rovokes	Inquire: Is there anything that makes it better Is there anything that makes it worse
Quality	Inquire: Describe the pain or discomfort How does it feel (Allow patient to describe in own words)
<u>R</u> adiates	Inquire: Does the pain radiate anywhere Does it hurt or cause discomfort anywhere else
Severity (or Scale)	Inquire: Rate severity of pain using scale of 1-10 (0 = no pain, 10 = most severe)
<u>T</u> ime	Inquire: Is the pain getting better or worse as time goes on How has the pain changed over time

TTG-07 BASELINE VITAL SIGNS

Baseline vital signs should be taken early in assessment

PERFORMANCE	PROCEDURES
Assess and Record Breathing Rate	 Do not inform patient that you are checking breathing to avoid influencing rate Observe chest rise and fall Count number of breaths in 30 seconds and multiply by two Identify quality of breathing Normal Shallow Labored Noisy Obtain and record SaO₂ (pulse oximetry) if available (TTG-13)
Assess and Record Pulse	Assess radial pulse (brachial pulse in patients less than one year old) If peripheral pulse is not palpable, assess carotid pulse Count number of beats in 30 seconds and multiply by two Identify quality of pulse Strong/Weak Regular/Irregular
Assess and Record Blood Pressure	 Determine proper size BP cuff (sphygmomanometer): Bladder of cuff should cover one half of the arm circumference If cuff is too small, the BP will be higher If the cuff is too large, the BP will be lower Place BP cuff on arm one inch above natural crease of elbow with bladder centered over brachial artery, wrap snugly Inflate cuff while palpating radial pulse until it cannot be felt, make mental note of the reading Without stopping, continue to inflate cuff to 30mm above the level where pulse was obliterated Apply stethoscope, place diaphragm of stethoscope over brachial artery at the antecubital fossa Deflate cuff at approximately 2 mm per second Record systolic pressure level where pulse beat is first heard Record diastolic level where last pulse beat was heard and continue to deflate slowly Record which limb was used to obtain BP Record position of patient

TTG-07 BASELINE VITAL SIGNS (Continued)

PERFORMANCE	PROCEDURES
Assess and Record Skin Perfusion, Color,	Look at skin to determine Color:
Temperature, and Condition (CTC)	Normal skin color
	Abnormal skin colors:
	 Pale - Poor perfusion due to decreased blood flow
	Cyanotic - blue-gray color indicates poor perfusion
	Flushed - red color indicates exposure to heat or CO
	Jaundice - yellow color indicates liver difficulty
Assess and Record Skin Perfusion, Color,	Touch patient with gloved hand to determine Temperature :
Temperature , and Condition (CTC)	Normal temperature:
•	• Warm
	 Consider obtaining patient temperature through use of
	a thermometer
	Abnormal temperatures:
	• Cold
	• Cool
	• Hot
Assess and Record Skin Perfusion, Color,	Determine skin Condition :
Temperature, and Condition (CTC)	Normal condition:
Temperature, and Condition (CTC)	• Dry
	Abnormal condition:
	Clammy
	• Wet
	• Moist
Assess Capillary Refill	Assess by pressing on nail bed of finger or toe or by pressing on
(May be critical for infants and children	skin at the sternum, chin, or forehead
less than six years of age)	Normal:
less than six years of age)	Capillary refill observed in less than two seconds
	Abnormal:
	Capillary refill observed in more than two seconds
	^ v
Assess and Record Pupils	Assess for any abnormal findings
	Assess by shining light into patient's eyes to determine size:
	• Dilated (large)
	• Normal
	Constricted (small)
	Assess by shining light into patient's eyes to determine equality:
	• Equal
	• Unequal
	Assess by shining light into patient's eyes to determine reactivity:
	Reactive
	 Non-reactive
	Record pupilary findings

NOTES:

• Blood pressure is not commonly obtained for children under 3 years of age, however blood pressure taken by palpation is appropriate in small children.

TTG-08 DETAILED PHYSICAL EXAM

Detailed Physical Exam is patient and injury specific

PERFORMANCE	PROCEDURES
Inspect and Palpate Each Area:	Inspect and palpate the following areas using DCAPBTLS acronym
Head and Facial Bones	Inspect and palpate: Cranium Forehead Orbits Cheek bones Maxilla (upper jaw) Mandible (lower jaw)
Eyes	Look for: Discoloration Unequal pupils Foreign bodies Blood in anterior chamber
Mouth	Look for: Broken or missing teeth Obstructions Swollen or lacerated tongue Breath odors Discoloration
Nose	 Inspect and palpate nasal bone Assess for drainage, blood, or Cerebral Spinal Fluid (CSF)
Ears	Inspect and palpate earsAssess for drainage, blood, or CSF
Neck	 Inspect and palpate cervical spine Assess for Jugular Vein Distention (JVD) Assess for Tracheal Deviation
Upper Extremities	 Inspect and palpate upper arm (humerus) Inspect and palpate elbow Inspect and palpate lower arm (radius and ulna) Check PMS: Check for radial pulse in each extremity Check for motor function in each extremity Check for sensory function in each extremity
Chest	 Inspect and palpate clavicles Inspect and palpate sternum Inspect and palpate ribs Assess for paradoxical motion Auscultate breath sounds (present, equal, and bilateral) in all lung fields

EMT BASIC TEACHING AND TESTING GUIDELINES **TTG-08 DETAILED PHYSICAL EXAM** (continued)

Abdomen	Inspect and palpate each of the 4 quadrants separately for:
	Tenderness
	Rigidity
	Firmness,
	Distention
	Assess for pulsating mass
	(If patient complains of pain in one quadrant, check it last)
Lower Extremities	Inspect and palpate upper leg (femur)
	Inspect and palpate knee
	Inspect and palpate lower leg (tibia and fibula)
	Check PMS:
	 Check for distal pulse in each extremity
	Check for motor function in each extremity
	Check for sensory function in each extremity
Back and Spine	Inspect and palpate back and spine maintaining spinal precautions

TTG-09 ONGOING ASSESSMENT

Unstable patients should be re-evaluated at least every 5 minutes and stable patients should be re-evaluated at least every 15 minutes

PERFORMANCE	PROCEDURES
Repeat Initial Assessment	 Reassess mental status Maintain open airway Monitor breathing for adequacy (rate, quality, and volume) Reassess pulse rate and quality Reassess bleeding control Monitor skin CTC Re-consider patient priorities
Repeat and Record Vital Signs Check Interventions	 Perform TTG-07 Assure adequacy of oxygen Assure management of bleeding Assure adequacy of all other interventions
Evaluate Patient Status	 Evaluate status of patient to ensure improvement If not improving, consider additional or alternate interventions

TTG-10 COMMUNICATION

PERFORMANCE	PROCEDURES
Radio Communication	Listen to frequency and ensure clear before transmission Wait two seconds after pressing talk button before talking Speak with mouth 2 to 3 inches from microphone Address unit you are calling, then give your unit Speak clearly and slowly Keep transmissions brief Avoid meaningless phrases (like "be advised") Use "affirmative" or "negative" rather than "yes" or "no" Be clear when transmitting numbers Do not use patient's name over the radio Do not use profanity
Communicating with Dispatch	 Notify dispatch that the call was received Notify dispatch when en-route to the scene Notify dispatch upon arrival at scene Notify dispatch upon arrival at patient Notify dispatch when en-route to the hospital Notify dispatch upon arrival at hospital Notify dispatch when en-route back to the service area Notify dispatch upon return to the service area Notify dispatch when back in service
Communicating with Patient	 Maintain eye contact with patient Position yourself at a lower level than patient, if possible Be honest Use language patient can understand Speak clearly, slowly, and distinctly Use patient's proper name
Communicating with Medical Control	Radio Report Essentials: Identify unit and level Estimated Time of Arrival (ETA) Patient's age and sex Chief complaint Brief pertinent history Level of Conscious (LOC) Baseline vitals Pertinent findings of exam Emergency medical care given Response of patient to emergency medical care Change in vital signs Principals of Communication: Contact for consultation and orders Give accurate information After receiving an order, repeat back verbatim Question orders that are unclear or appear to be inappropriate

TTG-11 DOCUMENTATION

PERFORMANCE	PROCEDURES
Pre-Hospital Care Report (PCR)	 Identify uses of pre-hospital report: Provides continuity of care A legal document Educational Administrative (billing and statistics) Research Patient care record
Run Data (Be sure to document all state mandated data reporting elements)	Document: Response delays Unit and crew members Date Times Dispatch notified Unit notified En route Arrived at scene Arrived at patient Left scene Arrived at care facility Back in service
Document Patient Data (Be sure to document all state mandated data reporting elements)	Document: Patient information Insurance information Nature of call Treatment administered prior to arrival of EMS Chief complaint Signs and Symptoms Interventions Baseline vital signs Medications administered Sample history Changes in condition
Narrative Section	 Write legibly Describe what you saw and heard Include pertinent negatives Document sources of sensitive information

- Utah Bureau of Emergency Medical Services pre-hospital report <u>www.polaris.utah.gov</u>
- Nation Emergency Medical Services Information System <u>www.nemsis.org</u>

EMT BASIC TEACHING AND TESTING GUIDELINES **TTG-11 DOCUMENTATION (Continued)**

Patient Refusal	 Determine if patient is able to make rational, informed decisions Inform patient why they should seek medical attention Inform patient what may happen if they don't seek medical attention Consult medical direction Document any assessment findings and medical care given Have patient sign refusal form if possible Have family member, police officer, or bystander sign as witness
Patient Refuses to Sign Refusal	Have family member, police officer, or bystander sign form verifying that the patient refused to sign a refusal form
Correction of Errors	Discovered during completing: If using a hard copy, draw a single horizontal line through error, initial it, and write correct information beside it Discovered after completing: If using a hard copy draw a single horizontal line through error, initial it, write correct information beside it
Mass Casualty Incidents (MCI)	When there is not enough time to complete documentation before the next call, use triage tags to temporally note information that can be used as a referenced source to complete documentation later

TTG-12 OXYGEN DELIVERY SYSTEMS

PERFORMANCE	PROCEDURES
Set Up Oxygen Tank (Oxygen cylinders should always be supported)	 Ensure tank is secure Face away from opening, slowly open and close the tank valve momentarily to remove foreign material from opening Inspect regulator for damage and ensure an appropriate gasket or washer is in place Turn flow selector valve on the regulator to "OFF" or "0" Attach regulator to tank S-L-O-W-L-Y open tank valve fully (minimum of 2 revolutions) Check for leaks Check tank pressure to ensure adequate O2 present
Attach Oxygen to Flowmeter	Connect tubing to flowmeter
Use of Nonrebreather Mask	 Select correct size mask Set flowmeter to 15 liters per minute Inflate bag before placing mask on patient
Use of Nasal Cannula (Use only when patient will not tolerate a mask)	Select correct sized cannula Set flow meter between 2 and 6 liters per minute
Apply Oxygen Device to Patient.	 Explain the need for oxygen to the patient Place oxygen delivery device on patient Consider indirect administration (blow-by oxygen) for pediatric patients
To Discontinue Use	 Remove oxygen delivery device from patent Shut off the regulator Relieve the pressure within the regulator Ensure tank is secure

TTG-13 PULSE OXIMETRY

PERFORMANCE	PROCEDURES
Attach Pulse Oximeter Probe	Place sensor on ear lobe, finger or toe directly over nail bed
Activate Pulse Oximeter	Turn on and record oxygen saturation level
Apply Oxygen Device to Patient	(See TTG-12)
Use of Pulse Oximeter Readings	Compare readings with vital signs and other signs and symptoms

NOTE:

- Pulse oximetry may not be useful when extremity perfusion is diminished from trauma, cold ambient temperature, vasopressors, edema, or anemia.
- Pulse oximetry may provide an early indication of respiratory deterioration and development of hypoxia and should be used throughout stabilization.
- Pulse oximeters do not reflect the effectiveness of ventilation when the goal is carbon dioxide elimination.
- Pulse oximeters may report 100% O₂ on a patient with carbon monoxide poisoning.
- Be sure to treat the patient based on the signs and symptoms.

TTG-14 ASSISTED VENTILATION

Select Correct Mask — Select proper size mask Inflate mask collar if necessary Assemble Bag Valve Mask (BVM) — Assemble BVM, if required Attach BVM to Oxygen — Turn O ₂ to 15 LPM — Flush line — Attach O ₂ line to bag Immobilize Head and Neck — If trauma is suspected, manually immobilize head and neck Open airway — Open airway using appropriate method Insert Airway Adjunct if Needed Insert oropharyngeal or nasopharyngeal airway (See TTG-15) Using two hands: — Rescuer should position self at top of patient's head — Place apex of mask over bridge of nose — Place base between lower lip and chin — Hold mask firmly in position — Place thumbs over the upper portion of the mask, and index and middle fingers over lower portion of the mask, and index and middle fingers over lower portion of the mask and index and middle fingers over lower portion of the mask and index and middle fingers over lower portion of mask and index finger over lower portion — Use remaining three fingers to bring the jaw up toward mask without tilting the head or neck — Place thumb over upper portion of mask and index finger over lower portion — Use remaining three fingers to bring the jaw up toward mask without tilting the head or neck — Blow into mouthpiece until chest rises 2 person bag valve mask: — Second EMT squeezes bag with two hands until chest rises Flow restricted O ₂ power: — Push trigger until chest rises (Adult use only) 1 person bag valve mask: — Squeeze bag with other hand until chest rises Flow restricted O ₂ power: — Push trigger until chest rises Ventilate at Correct Rate — Adult rate is once every 5 seconds — Infant or child rate is once every 3 seconds Ensure Adequate Ventilation — Check for rise and fall of chest. — If chest alos not rise; — Reposition head — Check for obstruction and remove — If thest still does not rise, use alternative method, e.g., bag valve mask, manually triggered device. — Reposition fingers and mask	PERFORMANCE	PROCEDURES / ACTIVITIES
Assemble Bag Valve Mask (BVM) Attach BVM to Oxygen Tum O, to 15 LPM Flush line Attach O₂ line to bag Immobilize Head and Neck — If trauma is suspected, manually immobilize head and neck Open airway — Open airway using appropriate method Insert Airway Adjunct if Needed — Insert oropharyngeal or nasopharyngeal airway (See TTG-15) Apply Mask Properly — Rescuer should position self at top of patient's head — Place apex of mask over bridge of nose — Place base between lower lip and chin — Hold mask firmly in position — Place thumbs over the upper portion of the mask, and index and middle fingers over lower pour one of the mask Using one hand: — Rescuer should position self at top of patient's head — Use ring and little fingers to bring the jaw upward, toward the mask without tilting the head or neck — Place thumb over upper portion of mask and index finger over lower portion — Use remaining three fingers to bring the jaw up toward mask without tilting the head or neck Mouth to Mask: — Blow into mouthpiece until chest rises 2 person bag valve mask: — Second EMT squeezes bag with two hands until chest rises Flow restricted O₂ power: — Push trigger until chest rises (Adult use only) 1 person bag valve mask: — Squeeze bag with other hand until chest rises Ventilate at Correct Rate Adult rate is once every 5 seconds — Infant or child rate is once every 3 seconds Ensure Adequate Ventilation • Check for rise and fall of chest. • If chest does not rise. — Reposition head — Check for obstruction and remove — If chest still does not rise, use alternative method, e.g., bag valve mask, manually triggered device.	Select Correct Mask	
Attach BVM to Oxygen Turn O₂ to 15 LPM		Inflate mask collar if necessary
Immobilize Head and Neck If trauma is suspected, manually immobilize head and neck Open airway Open airway using appropriate method Insert Airway Adjunct if Needed Insert oropharyngeal or nasopharyngeal airway (See TTG-15) Apply Mask Properly Using two hands: Rescuer should position self at top of patient's head Place apex of mask over bridge of nose Place base between lower lip and chin Hold mask firmly in position Place thumbs over the upper portion of the mask, and index and middle fingers over lower portion of the mask Using one hand: Rescuer should position self at top of patient's head Usering and little fingers to bring the jaw upward, toward the mask without tilting the head or neck Place thumb over upper portion of mask and index finger over lower portion Use remaining three fingers to bring the jaw up toward mask without tilting the head or neck Blow into mouthpiece until chest rises Person bag valve mask: Blow into mouthpiece until chest rises Person bag valve mask: Second EMT squeezes bag with two hands until chest rises Flow restricted O2 power: Push trigger until chest rises (Adult use only) 1 person bag valve mask: Squeeze bag with other hand until chest rises Ventilate at Correct Rate Adult rate is once every 5 seconds Infant or child rate is once every 3 seconds Ensure Adequate Ventilation Check for rise and fall of chest. I chest does not rise: Reposition head Check for obstruction and remove If chest still does not rise, use alternative method, e.g., bag valve mask, manually triggered device.	Assemble Bag Valve Mask (BVM)	Assemble BVM, if required
Immobilize Head and Neck If trauma is suspected, manually immobilize head and neck Open airway Open airway using appropriate method Insert Airway Adjunct if Needed Apply Mask Properly Using two hands: Rescuer should position self at top of patient's head Place apex of mask over bridge of nose Place base between lower lip and chin Hold mask firmly in position Place thumbs over the upper portion of the mask, and index and middle fingers over lower portion of the mask without tilting the head or neck Place thumbs over upper portion of mask and index finger over lower portion Use remaining three fingers to bring the jaw up toward mask without tilting the head or neck Place thumb over upper portion of mask and index finger over lower portion Use remaining three fingers to bring the jaw up toward mask without tilting the head or neck Blow into mouthpiece until chest rises 2 person bag valve mask: Second EMT squeezes bag with two hands until chest rises Flow restricted O ₂ power: Push trigger until chest rises (Adult use only) I person bag valve mask: Squeeze bag with other hand until chest rises Ventilate at Correct Rate Adult rate is once every 3 seconds Ensure Adequate Ventilation Check for rise and fall of chest. If chest still does not rise: Reposition head Check for obstruction and remove If the still does not rise, use alternative method, e.g., bag valve mask, manually triggered device.	Attach BVM to Oxygen	Turn O ₂ to 15 LPM
Immobilize Head and Neck — If trauma is suspected, manually immobilize head and neck Open airway — Open airway using appropriate method Insert Airway Adjunct if Needed — Insert oropharyngeal or nasopharyngeal airway (See TTG-15) Using two hands: — Rescuer should position self at top of patient's head — Place apex of mask over bridge of nose — Place base between lower lip and chin — Hold mask firmly in position — Place thumbs over the upper portion of the mask, and index and middle fingers over lower portion of the mask (Using one hand: — Rescuer should position self at top of patient's head — Use ring and little fingers to bring the jaw upward, toward the mask without tilting the head or neck — Place thumb over upper portion of mask and index finger over lower portion — Use remaining three fingers to bring the jaw up toward mask without tilting the head or neck — Place thumb over upper portion of mask and index finger over lower portion — Use remaining three fingers to bring the jaw up toward mask without tilting the head or neck Mouth to Mask: — Blow into mouthpiece until chest rises 2 person bag valve mask: — Second EMT squeezes bag with two hands until chest rises Flow restricted O2 power: — Push trigger until chest rises (Adult use only) 1 person bag valve mask: — Squeeze bag with other hand until chest rises Ventilate at Correct Rate — Adult rate is once every 5 seconds — Infant or child rate is once every 3 seconds Ensure Adequate Ventilation — Check for rise and fall of chest. • If chest does not rise: — Reposition head — Check for obstruction and remove — If chest still does not rise, use alternative method, e.g., bag valve mask, manually triggered device. • If air is escaping:		Flush line
Open airway Open airway using appropriate method Insert Airway Adjunct if Needed Apply Mask Properly Using two hands: Rescuer should position self at top of patient's head Place apes of mask over bridge of nose Place base between lower lip and chin Hold mask firmly in position Place thumbs over the upper portion of the mask, and index and middle fingers over lower portion of the mask Using one hand: Rescuer should position self at top of patient's head User ing and little fingers to bring the jaw upward, toward the mask without tilting the head or neck Place thumb over upper portion of mask and index finger over lower portion Use remaining three fingers to bring the jaw up toward mask without tilting the head or neck Mouth to Mask: Blow into mouthpiece until chest rises 2 person bag valve mask: Second EMT squeezes bag with two hands until chest rises Flow restricted O2 power: Push trigger until chest rises (Adult use only) 1 person bag valve mask: Squeeze bag with other hand until chest rises Ventilate at Correct Rate Adult rate is once every 5 seconds Infant or child rate is once every 3 seconds Ensure Adequate Ventilation Check for rise and fall of chest. If chest does not rise: Reposition head Check for obstruction and remove If chest still does not rise, use alternative method, e.g., bag valve mask, manually triggered device. If air is escaping: If air is escaping:		Attach O ₂ line to bag
Insert Airway Adjunct if Needed — Insert oropharyngeal or nasopharyngeal airway (See TTG-15) Using two hands: — Rescuer should position self at top of patient's head — Place base between lower lip and chin — Hold mask firmly in position — Place thumbs over the upper portion of the mask, and index and middle fingers over lower portion of the mask using one hand: — Rescuer should position self at top of patient's head — Use ring and little fingers to bring the jaw upward, toward the mask without tilting the head or neck — Place thumb over upper portion of mask and index finger over lower portion — Use remaining three fingers to bring the jaw up toward mask without tilting the head or neck Initiate Ventilations Mouth to Mask: — Blow into mouthpiece until chest rises 2 person bag valve mask: — Second EMT squeezes bag with two hands until chest rises Flow restricted O ₂ power: — Push trigger until chest rises (Adult use only) 1 person bag valve mask: — Squeeze bag with other hand until chest rises Ventilate at Correct Rate Ventilate at Correct Rate Adult rate is once every 5 seconds — Infant or child rate is once every 3 seconds Ensure Adequate Ventilation Check for rise and fall of chest. • If chest does not rise: — Reposition head — Check for obstruction and remove — If chest still does not rise, use alternative method, e.g., bag valve mask, manually triggered device. • If air is escaping:	Immobilize Head and Neck	If trauma is suspected, manually immobilize head and neck
Apply Mask Properly Using two hands:	Open airway	Open airway using appropriate method
Rescuer should position self at top of patient's head Place apex of mask over bridge of nose Place base between lower lip and chin Hold mask firmly in position Place thumbs over the upper portion of the mask, and index and middle fingers over lower portion of the mask (Using one hand: Rescuer should position self at top of patient's head Use ring and little fingers to bring the jaw upward, toward the mask without tilting the head or neck Place thumb over upper portion of mask and index finger over lower portion Use remaining three fingers to bring the jaw up toward mask without tilting the head or neck Mouth to Mask: Blow into mouthpiece until chest rises 2 person bag valve mask: Second EMT squeezes bag with two hands until chest rises Flow restricted O ₂ power: Push trigger until chest rises (Adult use only) 1 person bag valve mask: Squeeze bag with other hand until chest rises Ventilate at Correct Rate Adult rate is once every 5 seconds Infant or child rate is once every 3 seconds Ensure Adequate Ventilation Check for rise and fall of chest. If chest does not rise: Reposition head Check for obstruction and remove Reposition head If chest still does not rise, use alternative method, e.g., bag valve mask, manually triggered device. If air is escaping:	Insert Airway Adjunct if Needed	Insert oropharyngeal or nasopharyngeal airway (See TTG-15)
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TTG-15 AIRWAY ADJUNCTS

Oropharyngeal and Nasopharyngeal Airways

PERFORMANCE	PROCEDURES
Select Proper Airway Adjunct	Oropharyngeal if there is no gag reflex present or Nasopharyngeal if gag reflex is present
OROPHARYNGEAL	
Select Proper Size	Measure oropharyngeal airway from the corner of patient's mouth to the tip of earlobe on same side of the patient's face
Open patient's mouth	Open airway appropriately
Insert Airway (Use one of two methods)	 Position airway so tip is pointing toward roof of patient's mouth Insert airway until resistance is encountered Rotate airway 180 degrees so flange rests on patient's teeth or lips Depress tongue down and forward with a tongue blade Insert airway right side up (This is the preferred method for pediatric patients)
Remove Airway Adjunct	 Remove immediately if patient starts to gag Extract using a downward and outward motion from mouth
NASOPHARYNGEAL	
Check for Contraindications (Consult medical control if encountered) Select Proper Size	Do not use if: Evidence of clear fluid issuing from ear or nose Severe facial trauma Measure nasopharyngeal airway from the tip of the patient's nose to the tip of earlobe on same side of the patient's face
	The diameter of the airway should be about the same as the diameter of the patient's little finger
Lubricate the Airway	Lubricate the outside of the airway with water-based lubricant before insertion
Insert Airway	 Insert airway so bevel is facing toward the base of the nostril or septum Insert airway posteriorly, avoiding an upward angle Advance airway until flange rests against patient's nostril Do not force, if airway cannot be inserted, try the other nostril

TTG-16 SUCTIONING

PERFORMANCE	PROCEDURES
Turn the Suction Unit on	Ensure suction unit is on and functioning properly
Select a catheter for patient	 Use rigid catheter to suction an unresponsive adult patient Use a large bore flexible suction catheter to suction an infant or child to prevent damage to the child's airway Use a French catheter and select a low to medium setting on suction unit to suction nasal passages
Attach Catheter to Suction Unit	Attach catheter to suction unit
Evaluate Airway	 Ensure that patient has open airway If necessary, log roll patient and attempt to clear airway manually
Insert Catheter	 Insert catheter into the oral cavity without suction, if possible Do not insert further than base of tongue
Oxygenate and Ventilate Patient	Oxygenate and ventilate patient
Apply Suction	 Apply suction and move the catheter tip from side to side Adults - no more than 15 seconds at a time Children - no more than 10 seconds at a time Infants - no more than 5 seconds at a time If unable to complete suction in 15 seconds due to secretions or emesis, log roll patient and attempt to clear oropharynx
Oxygenate and Ventilate Patient	Oxygenate and ventilate patient
Repeat as Necessary	Repeat suction process as necessary

TTG-17 TREATING FOR SHOCK

PERFORMANCE	PROCEDURES
Assess for Shock	Assess Mental Status
	 Restlessness
	 Anxious
	Altered mental status
	Assess Peripheral Perfusion
	Weak, thready or absent peripheral pulses
	 Pale, cool, clammy skin
	• Assess capillary refill for children < 6 years old (>2 seconds)
	Assess Vital Signs
	 Pulse (Increased rate, weak and thready)early sign
	 Breathing (Increased rate, shallow, labored, irregular)
	 Decreased blood pressure late sign
	Assess Other Signs/Symptoms
	Dilated pupils
	Marked thirst
	Nausea and vomiting
	 Pallor with cyanosis to the lips
Apply Oxygen	Perform TTG-12
Control Bleeding	Perform TTG-33-40 as necessary
Splint if Necessary	Perform TTG-42-48 as necessary
Prevent Loss of Body Heat	Cover the patient with a blanket
Consider Immobilization	Consider immobilizing patient on a long backboard prior to elevating lower extremities Perform TTG-49-50 if needed
Elevate Lower Extremities	Elevate legs approximately 8 to 12 inches (contraindicated if serious
	injuries to the pelvis, lower extremities, head, chest, abdomen, neck,
	or spine)
Consider MAST/PASG	Consider MAST/PASG (See TTG-41)
	When signs of shock are present, lower abdomen is tender, pelvic
	injury is suspected, but there is no evidence of chest injury
Reconsider Patient Priority	Transport as soon as possible with high priority
Reassess	Reassess patient's LOC, respiratory status, and response

TTG-18 USE OF AUTOMATED EXTERNAL DEFIBRILLATOR

PERFORMANCE	PROCEDURES
Verify Breathlessness and Pulselessness	Stop bystander CPR if already initiatedVerify breathlessness and pulselessness
Start CPR	Perform CPR
Attach AED to Patient	 Ensure scene is safe for use of AED Properly attach device to patient Turn on AED power Begin narrative if machine has voice recorder
Analyze Rhythm Early Upon Arrival	 Stop CPR Clear patient Initiate analysis of rhythm
Shock Advised	 If shock advised, clear patient, deliver first shock Clear patient, re-analyze rhythm If shock advised, clear patient, deliver second shock Clear patient, re-analyze rhythm If shock advised, clear patient, deliver third shock After third shock, go to CHECK PULSE
No Shock Advised	Check leads, go to CHECK PULSE
Check Pulse	Check carotid pulse
Pulse is Present	 Check breathing: Breathing adequately, provide oxygen (see TTG-12) Not breathing adequately, assist ventilation (see TTG-14)
Pulse is NOT Present	Resume CPR for one minute Clear patient, initiate analysis of rhythm
Shock advised-ALS Enroute	Repeat the analysis, shock, CPR cycle until ALS arrives
Shock advised-ALS NOT Enroute	Repeat the analysis, shock, CPR cycle until total of six shocks delivered and then transport
No Shock Advised	Transport after third consecutive "No Shock Advised"

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-19 GLUCOMETER

PERFORMANCE	PROCEDURES
Determine Need for Blood Sugar Reading	Patient exhibits signs and symptoms of decreasing level of consciousness Anxiety Irritability Increasing "sleepiness" Unconsciousness History of diabetic problems
Prepare to Use Glucometer	 Ensure Glucometer is "on" Follow the manufacture's recommendation on calibration to ensure accurate reading Assemble needed supplies: Lancet Test Strips Alcohol Prep Pads Cotton Ball / Gauze pad Band-Aid
Obtain Blood Sugar Reading	 Follow manufacture's recommendations for use of lancet, obtaining blood sample, use of regent strips, etc (The normal blood sugar level is between 80-120 mg/dl)
Bandage Injected Site	Apply Band-Aid or pressure dressing to stop bleeding
Dispose	Dispose of lancet in biohazard sharps container

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-20 ADMINISTRATION OF NITROGLYCERIN

PERFORMANCE	PROCEDURES
Nitroglycerin	
Determine Need for Nitroglycerin	 Determine if patient has cardiac history and is prescribed nitroglycerin Determine if patient exhibits signs and symptoms of cardiac emergency Sudden onset of sweating Squeezing, pressure, or pain in chest radiating to jaw, neck, shoulders or arms Anxiety, irritability, appears to be in shock
Check for Contraindications	 Check for any contraindications Increased intracranial pressure Hypotension Hypovolemia Viagra or similar drugs
Inquire About Previous Doses	Inquire about: Total doses taken/administered When last dose taken/administered Effects of previous dose Any other interventions
Inquire About Medication	Obtain nitroglycerin Ensure the "six rights" of medication administration: "Right" patient "Right" medication "Right" dose "Right" route "Right" time "Right" documentation Check expiration date Check if medication is discolored or flaky
Assure Blood Pressure is Appropriate	Take blood pressure (TTG-7) – Systolic must be above 100 mm Hg
Obtain Medical Direction	Obtain order from medical direction, on-line or off-line, to administer nitroglycerin per protocol
Administer Nitroglycerin	Administer according to patient prescription: Ask patient to lift tongue Have patient or EMT place tablet or spray dose under tongue Have patient keep mouth closed until dissolved Tell patient not to chew or swallow Administer one spray or tablet every five minutes if pain is not relieved, systolic blood pressure remains above 100 mm Hg and you are authorized by medical control up to a maximum of three doses
Reassess	 Reassess patients blood pressure within 2 minutes Reassess patients response to medication

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-21 ADMINISTRATION OF ASPIRIN

PERFORMANCE	PROCEDURES
ASPIRIN	
Determine Need for Aspirin	Patient has chest pain
Check for Contraindications	 Check for any contraindications Pregnancy Bleeding disorders Peptic ulcers Use of anticoagulants Hypersensitivity or allergy to aspirin
Inquire About Previous Doses	Inquire about: Total doses taken/administered When last dose taken/administered Effects of previous dose Any other interventions
Inquire About Medication	Obtain aspirin Ensure the "six rights" of medication administration: "Right" patient "Right" medication "Right" dose "Right" route "Right" time "Right" documentation Check expiration date Check if medication is discolored
Obtain Medical Direction	Obtain order from medical direction, on-line or off-line, to administer aspirin per protocol
Administer Aspirin	Have patient chew, <i>not</i> swallow, four 81mg tablets (children's aspirin)
Reassess	Reassess patients response to medication

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-22 ADMINISTRATION OF PRESCRIBED INHALER

PERFORMANCE	PROCEDURES
PRESCRIBED INHALER	
Determine Need for Inhaler	 Patient has history of respiratory emergency and is prescribed an inhaler Patient exhibits signs and symptoms of respiratory emergency Shortness of breath Restlessness Use of accessory muscles for breathing Nasal flaring Tripod position Patient capable of following directions
Inquire About Previous Doses	Inquire about: Total doses taken/administered When last dose taken/administered Effects of previous dose Any other interventions
Inquire About Medication	Obtain inhaler Ensure the "six rights" of medication administration: "Right" patient "Right" medication "Right" dose "Right" route "Right" time "Right" documentation Check expiration date
Prepare to Administer	 Detach connection of inhaler to container to check for foreign objects Ensure the inhaler is at room temperature or warmer (warm by rubbing if needed) Reattach connection of inhaler to container Shake the inhaler vigorously several times If patient has spacer device, attach to inhaler
Obtain Medical Direction	Obtain order from medical direction, on-line or off-line to administer inhaler per protocol
Administer Inhaler	 Remove oxygen from patient Have patient exhale deeply Have patient place lips around opening of inhaler Have patient depress the hand held inhaler while simultaneously inhaling deeply Instruct patient to hold breath for as long as possible Replace oxygen on patient Repeat per medical direction
Reassess	Reassess respiratory status and patient 's response.

TTG-23 ADMINISTRATION OF EPINEPHRINE BY AUTO-INJECTOR (EPI-PEN)

PERFORMANCE	PROCEDURES		
EPINEPHRINE AUTO-INJECTOR	EPINEPHRINE AUTO-INJECTOR		
Determine Need for Epinephrine	 Patient has an allergy history Patient exhibits signs and symptoms of severe allergic reaction 		
Inquire About Previous Doses	Inquire about: Total doses taken/administered When last dose taken/administered Effects of previous dose Any other interventions		
Inquire About Medication	Obtain auto injector Ensure the "six rights" of medication administration: "Right" patient "Right" medication "Right" dose (Adult: 0.30 mg, Infant and Child: 0.15 mg) "Right" route "Right" time "Right" documentation Check expiration date Check if medication is discolored		
Obtain Medical Direction	Obtain order from medical direction on-line or off-line to administer Epinephrine Auto-Injector per protocol.		
Prepare to Administer	 Inform patient that injection will be painful Support patient's knee with other hand to prevent movement 		
Administer Epinephrine Auto-Injector	 Remove safety cap from the auto-injector Place black tip of auto-injector against patient's thigh (laterally, midway between the knee and the hip) Push injector firmly against the thigh until the injector activates Hold injector in place for 10 seconds 		
Dispose of Used Auto-Injector in Sharps Container	Dispose of used auto-injector in biohazard sharps container		
Reassess	Reassess respiratory status and patient's response		

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-24 ADMINISTRATION OF ORAL GLUCOSE

PERFORMANCE	PROCEDURES
ORAL GLUCOSE	
Determine Need for Oral Glucose	 Patient exhibits altered mental status has history of diabetic problems Consider use of glucometer
Inquire About Medication	Obtain oral glucose Ensure the "six rights" of medication administration: "Right" patient "Right" medication "Right" dose "Right" route "Right" time "Right" documentation Check expiration date
Obtain Medical Direction	Obtain order from medical direction on-line or off-line to administer oral glucose per protocol
Administer Oral Glucose	 Ensure that patient is conscious, can swallow and protect own airway Place glucose on tongue depressor between cheek and gum or squirt from tube between patient's cheek and gum Slowly administer small amounts over 2-3 minutes
Reassess	 Reassess level of consciousness, respiratory status and patient response Consider use of glucometer

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-25 ADMINISTRATION OF ACTIVATED CHARCOAL

PERFORMANCE	PROCEDURES
ACTIVATED CHARCOAL	
Determine need for Activated Charcoal	 Patient exhibits signs and symptoms of ingested poison or drug overdose Chemical burns around the mouth Unusual breath odors Altered mental status Presence of pills, tablets, fragments, bottles, etc
Additional Questions to Ask	Inquire about: What substance was ingested How much was ingested When was the substance ingested Over what time period Weight of the patient Previous interventions attempted
Check for Contraindications	 Check for any contraindications Ingestion of acids or alkalis Unable to swallow Iron tablets Lithium Cyanide Altered mental status Contact Poison Control Center for any ingested item of concern
Inquire About Medication	Obtain activated charcoal Ensure the "six rights" of medication administration: "Right" patient "Right" medication "Right" dose (One gram per kilogram of body weight) "Right" route "Right" time "Right" documentation Check expiration date
Prepare to Administer	 Ensure patient can swallow Remove pills, tablets or fragments with gloves from patient's mouth as needed
Obtain Medical Direction	Obtain order from medical direction either on-line or off-line to administer activated charcoal
Administer Activated Charcoal	Shake the container thoroughly prior to having patient drink itHave patient drink activated charcoal
Reassess	Reassess level of consciousness, respiratory status and patient response
Gather Containers	Take all containers, bottles, and labels of the possible poison agent to the receiving facility
Prepare for Transport	 Transport patient in left lateral recumbent position Position basin and towel in case patient vomits

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-26 TREATMENT OF CONTACT POISONS

PERFORMANCE	PROCEDURES
Assess for Poisoning Ask Additional Questions	Patient exhibits signs and symptoms of absorbed poisoning or exposure: Liquid or powder on patient's skin Burns Itching Irritation Redness Inquire about:
	 What substance was involved? How much was involved? When was patient exposed? Over what time period? Weight of the patient? Previous interventions attempted?
Obtain Medical Direction	Obtain order from medical direction
Evaluate HazMat Resources	 Consider HazMat resources on scene Consider need for HazMat team
Contaminated Skin	
Treatment for contaminated skin	 Remove contaminated clothing by cutting off Brush powder off patient, respiratory protection is needed for EMT and patient Irrigate with clean water for at least 20 minutes
Contaminated Eyes	
Treatment for contaminated eyes	Irrigate with clean water directing stream away from affected eye for at least 20 minutes and continue en-route to facility if possible
Gather Containers	Take all containers, bottles, and labels to the receiving facility
Reassess	Reassess level of consciousness, respiratory status and patient response

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-27 HYPERTHERMIA (HEAT)

PERFORMANCE	PROCEDURES
Assess for Hyperthermia	Patient exhibits signs and symptoms of hyperthermia:
	• Redness
	Muscular cramps
	 Weakness or exhaustion
	Rapid heart rate
	 Dizziness or faintness
	Altered mental status to unresponsive
Previous Interventions	Inquire about previous interventions attempted
MILD HYPERTHERMIA	
Assess for Mild Hyperthermia	Check skin for:
(Heat Exhaustion)	 Normal to cool temperature
	• Pale
	• Moist
Treatment for Mild Hyperthermia	Remove patient from hot environment and place in a cool
	environment (air conditioned ambulance) Loosen or remove clothing
	Cool patient by fanning
	Put in supine position with legs elevated
	Offer drinking water if patient is responsive and not nauseated
	If the patient is unresponsive or is vomiting, transport to the hospital
SEVERE HYPERTHERMIA	
Assess for Severe Hyperthermia	Check skin for:
(Heat Stroke)	Hot temperature
	• Red
	Dry or moist
Treatment for Severe Hyperthermia	Place patient in a cool environment
	Remove clothing
	Wet patient skin by applying water from sponge or wet towels and fan
	Put in supine position with legs elevated
	Offer drinking water if patient is responsive and not nauseated
	Apply cool packs to neck, groin and armpitsTransport immediately
	Transport ininiediately
Reassess	Reassess level of consciousness, respiratory status and patient
	response

EMT BASIC TEACHING AND TESTING GUIDELINES **TTG-28 HYPOTHERMIA (COLD)**

PERFORMANCE	PROCEDURES
Assess for Hypothermia	Patient exhibits signs and symptoms of hyperthermia:
	 Cool or cold general temperature (assessed by placing gloved hand on abdominal skin which is found to be cool or cold)
	 Consider thermometer to assess core temperature
	Low to absent blood pressure
	Complaints of joint/muscle stiffness
	Slowly responding pupils
Differentiate Between Early or Late	Decreasing mental status or motor function - correlates with the degree
Hypothermia	of hypothermia:
	 Poor coordination
	 Memory disturbances
	 Poor judgment
	 Dizziness
	 Reduced or loss of touch sensation
	 Mood changes
	Speech difficulty
	Muscular rigidity
	 Shivering may be present or absent
	Breathing variations
	Early - rapid breathing
	 Late - shallow, slow or even absent breathing
	Pulse:
	• Early - rapid
	 Late - slow and barely palpable and/or irregular, or completely absent
	Skin:
	Early - Red
	Late - Pale, cyanotic to blue-gray, stiff or hard
Previous Interventions	Inquire about:
	Previous interventions attempted

EMT BASIC TEACHING AND TESTING GUIDELINES **TTG-28 HYPOTHERMIA (COLD) (Continued)**

PERFORMANCE	PROCEDURES
Treat hypothermia	Remove the patient from the environment and protect from further
	heat loss
	Remove all wet clothing and cover with blanket
	Handle the patient gentlyavoid rough handling
	Do not allow the patient to walk or exert himself
	If patient is alert and responding appropriately, actively re-warm
	Warm blankets
	 Heat packs or hot water bottles to neck, groin and armpits
	 Turn the heat up high in the patient compartment of the ambulance
	If the patient is unresponsive or not responding appropriately, re-warm
	passively
	Warm blankets
	 Turn heat up high in patient compartment of ambulance
	Do not allow the patient to eat or drink stimulants
	Do not massage extremities
Reassess	Reassess level of consciousness, respiratory status and patient
	response

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-29 FROSTBITE AND COLD INJURIES

PERFORMANCE	PROCEDURES
Assess for Frostbite and Cold Injuries	Patient exhibits signs and symptoms of frostbite or cold injuries
	 Local injury with clear demarcation
EARLY OR SUPERFICIAL FROSTBIT	TE
Assess for Early or Superficial Frostbite	 Blanching of the skin - palpation of the skin in which normal color does not return. Loss of feeling and sensation in the injured area. Skin remains soft. If re-warmed, patient will feel a tingling sensation
Treat Early or Superficial Injury	 Remove the patient from the environment Protect the cold injured extremity from further injury Remove wet or restrictive clothing Splint extremity Cover the extremity Do not rub or massage Do not re-expose to the cold
LATE OR DEEP COLD INJURY	
Assess for Late or Deep Cold Injury	 White, waxy skin Firm to frozen feeling upon palpation If thawed or partially thawed, the skin may appear flushed with areas of purple and blanching or mottled and cyanotic Swelling may be present Blisters may be present
Treat Late or Deep Cold Injury	 Remove the patient from the environment Protect the cold injured extremity from further injury Remove wet or restrictive clothing Remove jewelry Cover with dry clothing or dressings Do not: Break blisters, Rub or massage area Apply heat Re-warm Allow the patient to walk on the affected extremity
Reassess	Reassess level of consciousness, respiratory status and patient response

TTG-30 CHILDBIRTH-NORMAL DELIVERY

PERFORMANCE	PROCEDURES
Establish Need for Delivery On Scene	 What number child is this for the mother Is baby crowning Does she have urge to push or feel need to have a bowel movement
Prepare for Delivery	 Consider all BSI for delivery: Sterile gloves (from OB kit) Eye protection Mask Gown Have mother lie down with knees drawn up and spread apart Elevate buttocks with blanket or pillows Create sterile field around vaginal opening with sterile towels or paper barriers
Communicate with Mother During Labor	 Instruct mother to push with contractions when head is in sight and to rest between contractions Tell mother not to push hard
Determine if Abnormal Delivery	If infant's head is not the part presenting, this is not a normal delivery (see TTG-31)
Assist Mother with Delivery	 When infant's head appears place fingers on bony part of skull and exert gentle counter pressure Avoid fontanelle and face If the amniotic sac does not break, or has not broken, use a clamp to puncture the sac and push it away from infant's head and mouth as they appear Check neck for umbilical cord If it is around the neck slip it over the head or shoulder or clamp, cut and unwrap the cord Support the head after it is delivered Suction the baby's mouth and nose two or three times Ensure that mouth is suctioned before the nose Compress syringe before placing in mouth or nose Avoid contact with the back of the mouth Gently guide baby downward to assist in delivery of baby's shoulders Support the infant with both hands as the full body is delivered Keep baby at level of vagina until cord is cut Clamp, tie and cut umbilical cord Place clamps halfway between baby and mother Space clamps four finger widths apart Cut between the clamps with sterile scissors
Note Delivery Time	Note and record delivery time

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-30 CHILDBIRTH-NORMAL DELIVERY (Continued)

Provide Infant Care	 Wipe blood and mucus from mouth and nose with sterile gauze Suction mouth and nose again (Mouth must be done first) Stimulate infant if not breathing by gently flicking soles of feet or rubbing back in a circular motion with three fingers Dry infant Wrap in a warm blanket Cover head to maintain body temperature Place on side, head slightly lower than trunk Calculate APGAR score at one minute Calculate APGAR score at five minutes
Assist Mother with Placenta Delivery	 Wrap placenta in towel and put in plastic bag Carefully massage uterus to control bleeding Allow baby to nurse to help control bleeding Do not delay transport to hospital for delivery of placenta Place sterile pad over vaginal opening Lower mother's legs Help her hold them together Record time of delivery Transport mother, infant, and placenta to hospital
Reassess	Reassess level of consciousness, respiratory status, and patient response of mother and child

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-31 CHILDBIRTH-ABNORMAL DELIVERY

PERFORMANCE	PROCEDURES
Prolapsed Cord (Cord presents through birth canal before delivery of head)	 Instruct mother to not push Apply oxygen to patient Position mother with head down in "knees to chest" position using gravity to lessen pressure in birth canal Insert sterile, gloved hand into vagina pushing the presenting part of the fetus away from the cord Rapidly transport, keeping pressure on presenting part and monitor pulsations in the cord
Breech Birth (Buttocks or legs present first)	 Apply oxygen to patient Place mother in prone position with pelvis elevated Immediate rapid transportation upon recognition
Limb Birth (Limb(s) present first)	 Apply oxygen to patient Place mother in prone position with pelvis elevated Immediate rapid transportation upon recognition
Multiple Births	 Call for assistance Deliver babies as described in the protocol for normal childbirth Reevaluate for abnormal delivery for each infant Be prepared for more than one resuscitation Provide Infant care for each baby as outlined in TTG-30
Meconium Present in Amniotic Fluid (Fluid that is greenish or brownish- yellow rather than clear is an indicator of possible fetal distress during labor)	 Do not stimulate infant before suctioning oropharynx Suction Maintain airway and assess respirations Transport as soon as possible
Reassess	Reassess level of consciousness, respiratory status and patient response

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-32 BURNS

PERFORMANCE	PROCEDURES
Determine Burn Type	Determine type:
Determine Body Surface Area	Determine Body Surface Area (BSA) using rule of nines
Determine Burn Classification	Superficial (involves epidermis only): Reddened skin Pain at site
	Partial Thickness (involves epidermis and dermis, but not underlying tissue): Intense pain White to red skin that is moist and mottled Blisters
	Full Thickness (All dermal layers, may involve muscle, bone or organs) Skin is dry and leathery and may appear white, dark brown or charred Loss of sensation - little or no pain Hard to the touch Pain at periphery
Determine Burn Severity	Minor Burns: Full thickness burns of less than 2% of the body surface Partial thickness burns of less than 15% of the body surface
	Moderate Burns: Full thickness burns of 2% to 10% of the body surface, excluding hands, feet, face, genitalia and upper airway Partial thickness burns of 15% to 30% of the body surface area Superficial burns of greater than 50% body surface area
	Critical Burns: Full thickness burns involving the hands, feet, face, or genitalia Burns associated with respiratory injury Full thickness burns covering > 10% of the body surface Partial thickness burns covering > 30% of the body surface Burns complicated by painful, swollen or deformed extremity Moderate burns in young children or elderly patients Circumferential burns of arm, leg, abdomen, or chest

EMT BASIC TEACHING AND TESTING GUIDELINES **TTG-32 BURNS (Continued)**

Burn Care (All Types)	 Remove patient from source of burn and prevent further contamination Consider the type of burn and stopping the burning process initially with water or saline if appropriate Cut off smoldering clothing Remove jewelry Continually monitor the airway for evidence of closure Cover the burned area with a dry sterile dressing Do not use any type of ointment, lotion or antiseptic Do not break blisters Ensure patient does not get hypothermic
Care for Chemical Burns	 Protect yourself from exposure to hazardous materials Wear gloves, eye protection, and respiratory protection Brush off dry powders Consider to flushing with large amounts of water Continue flushing the contaminated area while en route to the receiving facility Use caution not to contaminate uninjured areas when flushing
Care for Electrical Burns	 Ensure safety before removing patient from the electrical source If the patient is still in contact with the electrical source or you are unsure, do not approach or touch the patient, contact power company Monitor the patient closely for respiratory and cardiac arrest Treat the soft tissue injuries associated with the burn Look for both an entrance and exit wound
Reassess	Reassess level of consciousness, respiratory status, and patient response

TTG-33 BANDAGING - SPIRAL

Commonly used on Arm or Leg Injuries

PERFORMANCE	PROCEDURES
Expose Wound	Expose entire wound
Control Bleeding	 Handle dressings in an aseptic manner Place dressing over wound. If sterile dressing is not available use gloved hand or other available material Ensure dressing extends 1 inch beyond edges of wound Apply direct pressure as needed to stop the bleeding
Assess PMS	Assess PMS distal to the injury: • Pulse • Motor function • Sensory function
Select Appropriate Bandage	Select appropriate bandaging material
Apply Bandage	 Keep patient calm and quiet. Explain to the patient what you are doing Apply bandage firmly and securely but not tight enough to restrict blood supply Make several anchoring wraps, overlapping each wrap to secure in place Continue overlapping wrap circumferentially
Secure Bandage	 Ensure bandage holds dressing securely and controls bleeding Securely tie or fasten bandage in place so it will not move Tuck or tape loose ends
Reassess	 Reassess PMS distal to the injury Reassess wound to ensure bleeding control Assess level of consciousness, respiratory status, and patient response

TTG-34 BANDAGING – FIGURE EIGHT

Commonly used on Elbow, Knee, Neck, Shoulder, and Hip

PERFORMANCE	PROCEDURES
Expose Wound	Expose entire wound
Control Bleeding	 Handle dressings in an aseptic manner Place dressing over wound. If sterile dressing is not available use gloved hand or other available material Ensure dressing extends 1 inch beyond edges of wound Apply direct pressure as needed to stop the bleeding
Assess PMS	Assess PMS distal to the injury: • Pulse • Motor function • Sensory function
Select Appropriate Bandage	Select appropriate bandaging material
Apply Bandage	 Keep patient calm and quiet Explain to the patient what you are doing Apply bandage firmly and securely but not tight enough to restrict blood supply Elbow or Knee: Make several anchoring wraps starting either above or below the wound, overlapping each wrap to secure in place Place dressing on wound on elbow or knee Proceed diagonally across the dressing Circle below the joint and diagonally back across the dressing Repeat until dressing and area are sufficiently covered Neck, Shoulder or Hip:
	Make several anchoring wraps around arm or leg opposite injury site, overlapping to secure bandage Place dressing on wound on neck, shoulder or hip Proceed diagonally across the dressing Circle shoulder and arm or thigh and hip overlapping each time Repeat until dressing and area are sufficiently covered
Secure Bandage	 Ensure bandage holds dressing securely and controls bleeding Securely tie or fasten bandage in place so it will not move Tuck or tape loose ends Keep patient calm and quiet
Reassess	 Reassess PMS distal to injury Reassess wound to ensure bleeding control Ensure bandage allows the joint to move without becoming loose Ensure back of the figure eight is open Assess level of consciousness, respiratory status, and patient response

TTG-35 BANDAGING – HEAD

Commonly used on Ear, Eye, and side of the Head

PERFORMANCE	PROCEDURES
Expose Wound	Expose entire wound
Control Bleeding	 Handle dressings in an aseptic manner Place dressing over wound. If sterile dressing is not available use gloved hand or other available material Ensure dressing extends one inch beyond edges of wound Apply direct pressure as needed to stop the bleeding
Select Appropriate Bandage	Select appropriate bandaging material
Apply Bandage	 Keep patient calm and quiet Explain to the patient what you are doing Place padding behind the ears Apply bandage firmly and securely enough to control bleeding but not tight enough to restrict blood supply Secure dressing in place by wrapping with roller bandage around the head Ensure bandage does not occlude airway
Secure Bandage	 Ensure bandage holds dressing securely and controls bleeding Securely tie or fasten bandage in place so it will not move Tuck or tape loose ends
Reassess	 Reassess wound to ensure bleeding control Assess level of consciousness, respiratory status, and patient response

EMT BASIC TEACHING AND TESTING GUIDELINES **TTG-36 BANDAGING – PROTRUDING EYE**

ERFORMANCE	PROCEDURES
Expose Wound	Expose entire wound
Control Bleeding	 Handle dressings in an aseptic manner Place dressing over wound. If sterile dressing is not available use gloved hand or other available material Ensure dressing extends one inch beyond edges of wound Apply direct pressure as needed to stop the bleeding
Prepare to Bandage	 Cut a hole in the center of 4x4 gauze large enough to allow the gauze to pass over the eyeball Place the gauze over the eyeball and onto face as padding for the cone
Select Appropriate Bandage	Select appropriate bandaging material.
Apply Bandage	 Keep patient calm and quiet Explain to the patient what you are doing Place protective cone over the injured eye Stabilize cone over injured eye with a roller bandage Place padding behind the ears Have patient close uninjured eye and cover with eye-pad or gauze Anchor roller bandage around the head several times Secure cone by wrapping roller bandage around the cone 180 degrees and then back around the head to the cone, continue wrapping around the cone 180 degrees and back around the head until the cone is stabilized
Secure Bandage	 Ensure bandage holds dressing securely and controls bleeding Securely tie or fasten bandage in place so it will not move Tuck or tape loose ends
Reassess	Reassess wound to ensure bleeding control Assess level of consciousness, respiratory status, and patient response

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-37 BANDAGING – TOP OF HEAD

PERFORMANCE	PROCEDURES
Expose Wound	Expose entire wound
Control Bleeding	Handle dressings in an aseptic manner Place dressing over wound. If sterile dressing is not available use gloved hand or other available material Ensure dressing extends 1 inch beyond edges of wound Apply direct pressure as needed to stop the bleeding
Select Appropriate Bandage.	Select appropriate bandaging material
Apply Bandage	 Keep patient calm and quiet Explain to the patient what you are doing Place padding behind ears Using roller bandage, start at top of head and make loop over each ear hanging to just above shoulder Bring end back to top center of head making sure that all dressings are covered Twist and take roller bandage to the back of the head below the occiput Wrap securely 2-3 times from below occiput to forehead being sure not to cover patient's eyes Pull loops down securely and tuck into wrapping Continue wrapping securely from forehead to occiput Apply bandage firmly and securely but not tight enough to restrict blood supply
Secure Bandage	 Ensure bandage holds dressing securely and controls bleeding Securely tie or fasten bandage in place so it will not move Tuck or tape loose ends
Reassess	Reassess wound to ensure bleeding control Assess level of consciousness, respiratory status, and patient response

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-38 BANDAGING – CHEEK OR JAW

PERFORMANCE	PROCEDURES
Expose Wound	Expose entire wound
Control Bleeding	 Handle dressings in an aseptic manner Place dressing over wound. If sterile dressing is not available use gloved hand or other available material Ensure dressing extends one inch beyond edges of wound Apply direct pressure as needed to stop the bleeding
Select Appropriate Bandage	Select appropriate bandaging material.
Apply Bandage	 Keep patient calm and quiet Explain to the patient what you are doing Place padding behind the ears Secure dressing in place with bandage or tape Apply bandage firmly and securely but not tight enough to restrict blood supply Ensure bandage does not occlude airway
Secure Bandage	 Ensure bandage holds dressing securely and controls bleeding Securely tie or fasten bandage in place so it will not move Tuck or tape loose ends
Reassess	 Reassess wound to ensure bleeding control Assess level of consciousness, respiratory status, and patient response

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-39 BANDAGING – OPEN CHEST WOUND

PERFORMANCE	PROCEDURES
Expose Wound	Expose entire wound
Seal Wound and Control Bleeding	 Handle dressings in an aseptic manner Place occlusive dressing over wound (If occlusive dressing is not available use gloved hand) Ensure dressing extends two inches beyond edges of wound Apply direct pressure as needed to stop the bleeding
Apply an Occlusive Dressing.	 Keep patient calm and quiet Explain to the patient what you are doing Ensure dressing is large enough not to be sucked into the wound (two inches beyond edges of wound) Affix dressing with tape Seal on three or four sides Monitor patient closely for increasing difficulty breathing If tension pneumothorax develops, loosen one side of dressing to make a flap allowing air to escape yet not allowing it to enter Administer high concentration oxygen Transport as soon as possible Keep patient positioned on the injured side unless other injuries prohibit
Reassess	 Reassess wound to ensure bleeding control Assess level of consciousness, respiratory status, and patient response

PERFORMANCE	PROCEDURES
Determine Need for Using Tourniquet	If these conditions are met, a tourniquet may be the only alternative: Direct pressure has not been successful in stopping bleeding Elevation of wound above heart has not been successful in stopping of bleeding Compression of pressure point has not been successful in stopping of bleeding
Select Appropriate Materials	Select a band that will be between 3-4 inches in width and can be wrapped to six or eight layers deep (Consider use of BP cuff)
Apply Band	 Wrap band around the extremity proximal to the wound (one inch above but not on a joint) Tie one knot in the bandage Place a stick or pencil on top of the knot and tie the ends of the bandage over the stick in a square knot
Apply Pressure with Tourniquet	 Twist the stick until the bleeding is controlled, secure the stick in position Do not cover the tourniquet Notify other medical personnel caring for the patient Do not remove tourniquet unless directed by Medical Control
Mark Patient Appropriately	Mark a piece of tape on the patient's forehead "TQ" and time applied
Reassess	Assess level of consciousness, respiratory status, and patient response

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-41 PNEUMATIC COUNTER-PRESSURE DEVICE

Pneumatic Anti-Shock Garment (PASG) or Military Anti-Shock Trousers (MAST)

PERFORMANCE	PROCEDURES
Determine Need for PASG/MAST	If any of these conditions are present, PASG/MAST may be warranted:
	Patient exhibits signs and symptoms of shock
	Lower abdomen is tender
	Pelvic injury is suspected
Prepare to Apply	Unfold device and lay flat
	Remove patient's clothing
Check for Contraindications	Patient is pregnant
	Penetrating chest wounds
	Fracture that could be aggravated by use of PASG/MAST
APPLICATION METHODS	
Log Roll Method	Place PASG/MAST in position next to patient
	Position rescuers on opposite side of patient from device
	Log roll patient toward rescuers
	Position device under patient with top just below the lowest rib
	Position device so that center of trousers will be in center of victim's
	back when patient is returned to the supine position
	Return patient to supine position on device
Scoop Stretcher Method	Place PASG/MAST in position on the ground next to patient
•	Lift patient off the ground using a scoop stretcher
	Place the patient back on the ground centered over PASG/MAST
	Remove scoop stretcher.
Diaper Method	Place device at patient's feet
-	Slide device up under patient's legs with center of device in the center
	of the patient's back
	Gently lift patient's buttocks with one rescuer on each side
	Slide device up to lower costal margin just below rib
Modified Diaper Method	
	Loosely fasten Velcro on legs and abdomen section of device
	Rescuer one inserts arms through the bottom of the legs of the device
	and pulls the device up onto his arms until his hands extend through the
	abdominal section (The device will be bunched up on rescuer one's
	arms)
	Rescuer one is positioned at the feet of the supine patient and grasps the
	patient's feet Rescuer two then grasps the top of the abdominal section of the device
	and gently pulls them up onto the patient's body until the top of the
	abdominal section is even with the costal margin
	accommand section is even with the costal margin

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-41 PNEUMATIC COUNTER-PRESSURE DEVICE (Continued)

USING PASG/MAST WITH TRACTION SPLINT		
Apply with Traction Splint Method A	 Place device on patient Place traction splint on leg over PASG/MAST (See TTG 47-48) Inflate device 	
Apply with Traction Splint Method B	 Place traction splint on leg Apply PASG/MAST over splint Inflate compartments except compartment over the splint 	
Secure Device in Place	 Wrap the left leg of the garment around the patient's left leg Secure with Velcro straps Wrap the right leg of the garment around the patient's right leg Secure the Velcro straps Wrap abdomen section around the patient's abdomen Secure with Velcro straps 	
Contact Medical Control	Obtain order to inflate from medical direction, either on-line or off-line	
Inflate Device	Attach foot pump to all three valves and open all stopcocks Inflate device until one of the following occurs: Systolic pressure is maintained between 100 to 110 mm Air is released through the relief valves Velcro begins to crackle Close all stopcocks Do not inflate abdominal section on pediatric patients	
Maintain Inflation	 Monitor blood pressure constantly to control bleeding Increase or decrease device pressure as needed to keep systolic pressure 100-110 mm Hg or until maximum inflation is achieved 	
Reassess	Assess level of consciousness, respiratory status, and patient response	

TTG-42 SPLINTING – LONG BONES

For Injuries to Humerus, Radius, Ulna, Tibia, or Fibula

PERFORMANCE	PROCEDURES
Determine Need for Splinting	Assess for: • Pain • Swelling • Deformity _ Determine if splinting is warranted
Apply Manual Stabilization	Support affected limb and limit movement
Select Appropriate Splinting Materials	 Select appropriate splinting method depending on position of extremity and materials available Select appropriate padding material
Prepare for Splinting	 Remove or cut away clothing as needed Assess PMS distal to the injury: Pulse Motor function Sensory function Cover any open wounds with sterile dressing and bandage Align with gentle traction if no resistance is met and there is severe deformity Align with gentle traction if no resistance is met and if distal extremity is cyanotic and or lacks a pulse Pad around splint for patient comfort
Splint	 Immobilize site of injury Immobilize joints above and below the site of injury Maintain support while splinting Upper Extremity: Secure splinted arm to chest with a sling and swathe Place sufficient padding such as a pillow or rolled blanked between the arm and chest, if arm is in a fixed position, away from the body Lower Extremity: Consider immobilizing to other leg or long backboard Pad as needed
Reassess	Reassess PMS distal to the injury Assess patient response and level of comfort

TTG-43 SPLINTING -DISLOCATED AND FRACTURED JOINTS

For injuries to Shoulder, Elbow, Wrist, Hip, Knee, or Ankle

PERFORMANCE	PROCEDURES
Determine Need for Splinting	Assess for: • Pain • Swelling • Deformity _ Determine if splinting is warranted
Apply Manual Stabilization	 Support affected limb and limit movement Do not attempt to reduce dislocations
Select Appropriate Splinting Materials	 Select appropriate splinting method depending on position of extremity and materials available Select appropriate padding material
Prepare for Splinting	 Remove or cut away clothing as needed Assess PMS distal to the injury: Pulse Motor function Sensory function Cover any open wounds with sterile dressing and bandage Align with gentle traction if no resistance is met and there is severe deformity Align with gentle traction if no resistance is met and distal extremity is cyanotic and or distal extremity lacks a pulse Pad around splint for patient comfort
Splint	 Immobilize the site of injury Immobilize bones above and below the site of injury Maintain support while splinting Splint in position of comfort if resistance is met Upper Extremity: Secure splinted arm to chest with a sling and swathe. If arm is in a fixed position away from the body, place sufficient padding such as a pillow or rolled blanked between the arm and chest Lower Extremity: Consider immobilizing to other leg or long backboard, padding as needed Place sufficient padding such as a pillow or rolled blanket between the leg and the splint, if leg is in a fixed position away from the body
Reassess	 Reassess PMS Assess patient response and level of comfort

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-44 SPLINTING –CLAVICLE

PERFORMANCE	PROCEDURES
Determine Need for Splinting	Assess for:
	• Pain
	• Swelling
	Deformity
	Determine if splinting is warranted
Apply Manual Stabilization	Support affected limb and limit movement
Select Appropriate Splinting Material	Choose a sling and swathe
Prepare for Splinting	Remove or cut away clothing as needed
	Cover any open wounds with sterile dressing and bandage
Apply Splint	Place arm on affected side in a sling
	Swathe arm to body to provide support
Reassess	Reassess PMS
	Assess patient response and level of comfort

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-45 SPLINTING –FLAIL CHEST

PERFORMANCE	PROCEDURES
Determine Need for Splinting	Assess for: • Pain • Swelling • Deformity Determine if splinting is warranted
Select Appropriate Splinting Material	Choose a pillow, blanket, folded sheet or other appropriate splinting material
Prepare for Splinting	Remove or cut away clothing as neededCover any open wounds with sterile dressing and bandage
Apply Splint	 Affix splint to chest with adhesive tape or roller bandage Immobilize the site of injury Use caution when tapping splint to chest circumferentially Ensure sufficient chest expansion
Reassess	Assess patient response and level of comfort
Assist ventilations	Assist with ventilation as needed

TTG-46 SPLINTING –HIP

Use living or padded board splints

PERFORMANCE	PROCEDURES
Determine Need for Splinting	Assess for: • Pain • Swelling • Deformity _ Determine if splinting is warranted
Apply Manual Stabilization	 Support affected limb and limit movement Do not attempt to reduce dislocations
Select Appropriate Splint	Choose living splint, padded boards or PASG/MAST
Prepare for Splinting	 Remove or cut away clothing as needed Assess PMS distal to the injury: Pulse Motor function Sensory function Cover any open wounds with sterile dressing and bandage Align with gentle traction if no resistance is met and there is severe deformity Align with gentle traction if no resistance is met and distal extremity is cyanotic and or distal extremity lacks a pulse Measure splint Pad around splint for patient comfort
Splint	 Immobilize the site of injury Maintain support while splinting Immobilize bones above and below the site of injury Living Splint: Immobilize the site of injury Carefully place a pillow or folded blanket between the patients knees/legs Bind the legs together with wide straps or cravats Carefully place patient on long spine board or scoop stretcher Secure the patient to the long spine board or scoop stretcher Padded Board Splint: Splint with two, long padded splinting boards (One should be long enough to extend from the patient's armpit to beyond the foot. The other should extend from the groin to beyond the foot) Cushion with padding in the armpit and groin and all voids created at the ankle and knee Secure the splinting boards with straps or cravats Carefully place patient on long spine board Secure the patient to the long spine board
Reassess	Reassess PMS Assess patient response and level of comfort

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-47 SPLINTING –FEMUR USING HARE TRACTION SPLINT

PERFORMANCE	PROCEDURES
Determine need for Traction Splinting	 Assess for any these conditions at mid-thigh Pain Swelling Deformity Determine if Hare traction splinting is warranted
Check for contraindications	 Check for any contraindications Injury is close to or at the knee Injury to the pelvis, hip or knee exists Lower leg or ankle injury Partial amputation or avulsion with bone separation and distal limb is connected only by marginal tissue
Apply Manual Traction	Apply appropriate manual traction
Prepare for Splinting	 Remove or cut away clothing as needed Consider removing the patient's shoe Assess PMS distal to the injury: Pulse Motor function Sensory function Cover any open wounds with sterile dressing and bandage Adjust length of splint to length of uninjured leg plus 12-15 inches Apply padding to appropriate places: Groin where strap will pass over femoral artery Under knee for adequate support
Apply Splint	 Slip splint under patient's leg and up under patient until bar rests against the ischial tuberosity Secure groin/ischial strap over padding Attach the padded ankle hitch Tighten to appropriate traction Secure appropriate support straps avoiding wounds or knee
Secure Patient and Splint.	 Secure torso to the long spine board to immobilize hip Secure splint to the long spine board to prevent movement of splint
Reassess	Reassess PMS Assess patient response and level of comfort

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-48 SPLINTING –FEMUR USING SAGER SPLINT

PERFORMANCE	PROCEDURES
Determine Need for Splinting	 Assess for any these conditions at mid-thigh Pain Swelling Deformity Determine if Sager splinting is warranted
Check for Contraindications	 Check for any contraindications Injury is close to or at the knee Injury to the pelvis, hip or knee exists Lower leg or ankle injury Partial amputation or avulsion with bone separation and distal limb is connected only by marginal tissue
Apply Manual Traction	Apply appropriate manual traction
Prepare for Splinting	 Remove or cut away clothing as needed Remove the patient's shoe Assess PMS distal to the injury: Pulse Motor function Sensory function Cover any open wounds with sterile dressing and bandage Extend splint so wheel is at heel of uninjured leg Adjust Kydex buckle so will be on top of thigh when closed
Apply Splint.	 Place splint between patient's leg so perineal cushion is snug against perineum and ischial tuberosity Ensure that no perineal tissue entrapment has occurred Tighten strap, drawing perineal-ischial pad to lateral portion of groin Apply ankle harness tightly around ankle above maleoli of ankle Extend inner shaft of splint until desired amount of traction reached (Approximately 10% of body weight, max 25 lbs) Record tension shown on scale Apply straps and pad as needed between metal bar and leg: Apply longest 6" wide thigh strap as high up as possible Apply the second longest 6" wide thigh strap around knee Apply shortest 6" wide strap over ankle harness and lower leg Apply figure-eight strap around both ankles and secure snugly
Secure Patient and Splint.	 Secure torso to the long spine board to immobilize hip Secure splint to the long board to prevent movement of splint
Reassess	 Reassess PMS Assess patient response and level of comfort

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-49 IMMOBILIZATION OF CERVICAL SPINE

PERFORMANCE	PROCEDURES
Establish and Maintain In-line Immobilization.	 Place head in a neutral, in-line position unless patient complains of pain or the head is not easily moved into position. Place head in alignment with spine. Maintain constant manual in-line immobilization until the patient is properly secured to a backboard with the head immobilized.
Assess PMS	Assess PMS in all extremities: • Pulse • Motor function • Sensory function
Assess Cervical Region and Neck	 Inspect and palpate for injuries or signs of injuries using: D-C-A-P-B-T-L-S acronym Check for JVD Check for tracheal deviation Check for crepitance Remove clothing or jewelry as necessary
Bandage Any Wound	Immobilize the cervical spine prior to bandaging any neck wounds
Apply Cervical Spine Immobilization	Apply properly sized collar or manual immobilization
	One piece C-collar: Select properly sized collar Apply collar Ensure that patient's head is not twisted during application Ensure airway is open after placement Two piece C-collar: Select properly sized collar Apply rear section to back of neck Center rigid support on spine Apply front section (overlaps rear section) Ensure chin rests in chin cavity Secure collar with Velcro straps Ensure airway is open after placement
	Horse-collar: Place rolled towel around the patient's neck and tape two ends together below chin Ensure airway is open after placement Alternative: Have rescuer hold the head manually Ensure airway is open after placement
Secure Head to Appropriate Immobilization Device	 Immobilize patient to appropriate immobilization device (TTG-50-52) Use head bed or place rolled towels on each side of head Tape head securely to appropriate immobilization device
Reassess	Reassess PMS Assess patient response and level of comfort

TTG-50 IMMOBILIZATION –LONG SPINE BOARD (Backboard)

PERFORMANCE	PROCEDURES
Move the Patient Onto the Long Spine Board	One EMT at the head must maintain in-line immobilization of the head and spine EMT at the head directs the movement of the patient Other EMTs control movement of the rest of body Other EMTs position themselves on same side Upon command of EMT at the head roll patient onto side toward EMTs Quickly assess posterior body, if not already done Place long spine board next to the patient with top of board approximately 12 to 18 inches beyond top of head Place patient onto the board at command of the EMT at head while holding in-line immobilization using methods to limit spinal movement Slide patient into proper position using smooth coordinated moves keeping spine in alignment
Pad Voids Between Patient and Long Spine Board	Select and use appropriate padding Adult: Place padding as needed under the head Place padding as needed under torso Infant or child: Use towel pad under shoulders to the buttock to establish a neutral, inline head position Use towel or blanket rolls to fill voids around patient. Snug against ribs to eliminate sliding, yet still allow for diaphragmatic breathing Infants and children may be immobilized in their car seat if not seriously injured Use towels or blankets to fill voids
Immobilize Body to the Long Spine Board	Strap and secure body to board ensuring spinal immobilization, beginning at shoulder and working toward feet
Immobilize Head to the Long Spine Board	Use head-bed or place rolled towels on each side of head Tape and/or strap head securely to board, ensuring cervical spine immobilization
Reassess	 Reassess PMS Assess patient response and level of comfort

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-51 IMMOBILIZATION –SHORT SPINE BOARD

PERFORMANCE	PROCEDURES
Position Device	Place board behind the patient
Secure Patient's Torso	Secure straps around patient's torso and abdomen
Evaluate Torso Fixation and Adjust as Necessary	Adjust straps and position without excessive movement of the patient
Pad Behind Patient's Head	Pad behind the patient's head as necessary to maintain neutral in-line immobilization
Secure the Patient's Head	Strap or tape patient's head to the board ensuring immobilization
Place Patient onto Long Spine Board	 Insert long board under the patient's buttocks rotating and lowering patient to lie flat on board Consider other methods that may be needed to lower patient to the long spine board
Reassess	Reassess PMS Assess patient response and level of comfort

TTG-52 IMMOBILIZATION – CONFORMING EXTRICATION DEVICES

Using KED or ZED

	PROCEDURES
PERFORMANCE Position Conforming Extrication Device	 Place the extrication device behind patient by sliding the smooth side against the patient Center device on patient low enough for chest section to pass under axilla Extend leg straps until clear of device
Secure Device to Patient	 Wrap chest supports around patient's torso Ensure the device is snug in the axilla of the patient Buckle middle chest strap Buckle bottom chest strap (unless patient is pregnant) Snug middle and bottom chest straps to prevent patient movement Place leg straps in position under patient's legs and buttocks Pad groin area under straps Buckle leg straps on appropriate side of device Snug leg straps Buckle top chest strap and make snug
Pad Between Patient and KED	Adult only: Pad behind head to maintain neutral, in-line immobilization Select and use appropriate padding to fill voids around patient Children less than Eight: Pad from shoulders to heels to establish a neutral, in-line head position Select and use appropriate padding to fill voids around patient
Secure Patient's Head to Device	 Strap or tape patient's head to the board ensuring immobilization Release manual immobilization of head
Place Patient on Long Spine Board	Rotate or lift the patient to the long spine board
Release Legs Straps	 Release leg straps and have patient lower legs to long spine board Secure released leg straps
Immobilize Patient Onto Long Spine Board	Immobilize patient to long spine board (TTG-50)
Reassess	Reassess PMS Assess patient response and level of comfort

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-53 HELMET REMOVAL

PERFORMANCE	PROCEDURES
Determine Need for Helmet and or Face Mask Removal	 Consider if there is inadequate immobilization of head within helmet Consider need for control of life threatening bleeding Consider inability to manage airway or breathing Consider removal of face mask Consider need to remove shoulder pads to maintain spinal alignment if helmet is removed
Removal of Face Mask	 Work with certified Athletic Trainers, if present Immobilize helmet Carefully cut off all mask holders using anvil pruner, trainer angel, facemask extractor, or PVC pipe cutter Carefully remove face mask
Prepare for Removal of Helmet	Take eyeglasses, goggles, or other eyewear off, if necessary
Removal of the Helmet	 Work with certified Athletic Trainers, if present One EMT stabilizes helmet by placing hands on either side of helmet and holding jaw to prevent further movement. A second EMT unstraps helmet The second EMT stabilizes angle of jaw and places other hand at occipital region The EMT stabilizing helmet rotates helmet anteriorly off the occiput The EMT stabilizing helmet gently slips the helmet off head until it reaches halfway point The EMT maintaining stabilization of the neck repositions, slides the posterior hand superiorly to secure the head from falling back after complete helmet removal The EMT stabilizing helmet removes helmet in a manner that maintains stabilization of cervical spine Perform cervical spine immobilization (TTG-49) Perform spinal immobilization (TTG-50-52)
Reassess	Assess patient response and level of comfort

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-54 LIFTING AND MOVING GUIDELINES

PERFORMANCE	PROCEDURES
Lifting Techniques	 Use legs not back, to lift Keep weight as close to body as possible Consider weight of patient and need for additional help Know physical ability and limitations Position feet properly Use at least two people Communicate clearly and frequently with partner Use power-lift position, keep back locked into normal curvature Lift without twisting Hands should be at least 10 inches apart Use power grip to get maximum force from hands Avoid bending at the waist
Carrying Guidelines	 Know or find out the weight to be lifted Work in a coordinated manner, communicate with partners Keep the weight as close to the body as possible Keep back in a locked-in position and refrain from twisting Flex at the hips, not the waist; bend at the knees Do not hyper-extend the back (do not lean back from the waist)
Carrying Procedure	 Use correct lifting techniques to lift the stretcher Partners should have similar strength and height
One-handed technique	 Pick up and carry with the back in the locked-in position Avoid leaning to compensate for the imbalance
Carrying Procedures for Stairs	 Use a stair chair instead of a stretcher when possible Keep back in locked-in position Flex at the hips, not the waist; bend at the knees Keep weight and arms as close to the body as possible
Reaching Technique	 Keep back in locked-in position Avoid hyper-extended position when reaching overhead Avoid twisting the back while reaching Avoid reaching more than 20 inches in front of the body Avoid situations where prolonged strenuous effort is required
Reaching Technique for Log Rolls	Keep back straight while leaning over patientLean from the hips
Push and Pull Techniques	 Push, rather than pull, whenever possible Keep back locked-in Keep line of pull through center of body by bending knees Keep weight close to the body Push from the area between the waist and shoulder Use kneeling position if weight is below waist level Avoid pushing or pulling from an overhead position if possible Keep elbows bent with arms close to the sides

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-55 EMERGENCY MOVES

PERFORMANCE	PROCEDURES
Determine Need for Emergency Move	 Determine if immediate danger is present Determine if you have sufficient time and safety Look for: Fire or danger of fire Inability to protect patient from other hazards at the scene Inability to gain access to other patients in a vehicle who need life-saving care Life-saving care cannot be given because of the patient's location or position, e.g. cardiac arrest patient sitting in chair, lying on bed, or in a confined space such as a bathroom
Pull Patient in Proper Direction	Pull patient in the direction of the long axis of the body to provide as much protection to the spine as possible
If Patient is on the Floor or Ground	 Grasp the patient's clothing at the neck and shoulder area Put the patient on a blanket and drag the blanket Place hands under the patient's armpits (from the back), grasping the patient's forearms and dragging the patient

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-56 URGENT MOVES

PERFORMANCE	PROCEDURES
Determine Need for Urgent Move	 Determine if there is immediate threat to patient's life if the patient is not moved, such as: Altered mental status Inadequate breathing Shock (hypoperfusion) Must move a patient out of the way to get to the patient that requires the urgent move
Pull Patient in Proper Direction	Pull patient in the direction of the long axis of the body to provide as much protection to the spine as possible
If Patient is in Vehicle	 One EMT gets behind patient and brings cervical spine into neutral inline position and provides manual immobilization Second EMT applies cervical immobilization device Third EMT places long backboard near the door and then moves to passenger seat Second EMT supports the thorax as the third EMT frees the patient's legs from the pedals At the direction of the second EMT, the second EMT and the third EMT rotate the patient in several short, coordinated moves until the patient's back is in the open doorway and his feet are on the passenger seat Another available EMT or bystander supports the patient's head as the first EMT gets out of the vehicle and resumes support of the head outside of the vehicle The end of the long backboard is placed on the seat next to the patient's buttocks. Assistants support the other end of the board as the first EMT and the second EMT lower the patient onto it. It is desirable to have head-end of board raised to minimize distance to lower patient, then board can be lowered Third EMT moves around to patient side and second EMT and third EMT slide the patient into the proper position on the board in short, coordinated moves at the command of first EMT Several variations of the technique are possible Must be accomplished without compromise to the spine

EMT BASIC TEACHING AND TESTING GUIDELINES TTG-57 NON-URGENT MOVES

PERFORMANCE	PROCEDURES
Determine Need for Non-Urgent Move	Ensure there is no immediate threat to the patient's or the EMT's life
Moving Supine Patient from Ground	to Stretcher
Direct Ground Lift (No suspected spine injury)	 Two or three rescuers line up on one side of the patient Rescuers kneel on one knee (the same knee for all rescuers) Place patient's arms on his chest if possible The rescuer at the head places one arm under the patient's neck and shoulder and cradles the patient's head. He places his other arm under the patient's lower back The second rescuer places one arm under the patient's knees and one arm above the buttocks If a third rescuer is available, he should place both arms under the waist and the other two rescuers slide their arms either up to the midback or down to the buttocks as appropriate On signal, the rescuers lift the patient to their knees and roll the patient in toward their chests On signal, rescuers stand and move the patient to the stretcher. To lower the patient, the steps are reversed
Extremity Lift (No suspected extremity injuries)	 One rescuer kneels at the patient's head and one rescuer kneels at the patient's side by his knees Rescuer at head places one hand under each of the patient's shoulders while the rescuer at the foot grasps the patient's wrists Rescuer at the head slips his hands under the patient's arms and grasps the patient's wrists Rescuer at patient's foot slips his hands under patient's knees Both rescuers move up to a crouching position Rescuers stand up simultaneously and move patient to a stretcher

EMT BASIC TEACHING AND TESTING GUIDELINES **TTG-57 NON-URGENT MOVES (Continued)**

Transferring Supine Patient from Bed to Stretcher	
Direct Carry	 Position cot perpendicular to bed with head end of cot at foot of bed Prepare cot by unbuckling straps and removing other items Both rescuers stand between bed and stretcher, facing patient First rescuer slides arm under patient's neck and cups patient's shoulder Second rescuer slides hand under hip and lifts slightly First rescuer slides other arm under patient's back Second rescuer places arms underneath hips and calves Rescuers slide patient to edge of bed Patient is lifted/curled toward the rescuers' chests Rescuers rotate and place patient gently onto cot
Draw Sheet Method	 Loosen bottom sheet of bed Position cot next to bed Prepare cot Adjust Height Lower Rails Unbuckle Straps Reach across cot and grasp sheet firmly at patient's head, chest, hips and knees It may be necessary to climb onto cot to get closer (See TTG-54) Slide patient gently onto cot